

REMARKS

This amendment is responsive to the Office Action mailed June 24, 2009, in connection with the above-identified patent application. Claims 3, 7, 8, 13, 15, 19, 22, 24, 25 and 32-35 are rejected by the examiner under 35 U.S.C. 103(a) as being unpatentable over Chiou et al. (U.S. Patent No. 6,700,093) in view of Neff et al. (USPS 2004/0045806) and Penfold et al. (U.S. Patent No. 4,031,424). The examiner also rejects claims 4-6, 10-12, 16-17 under 35 U.S.C. 103(a) as being unpatentable over Chiou et al. in view of Neff et al. and Penfold et al. and further in view of (U.S. Patent 6,365,864) Stava. Additionally, claims 2, 9, 14, 18, 20, 23, 36-38, 40-46 & 144 are rejected by the examiner as being unpatentable over Chiou et al. in view of Neff et al. and Penfold et al. and further in view of (U.S. Patent 6,489,585) Nakamura et al. Applicant has submitted arguments in support of overcoming the rejections. The examiner's careful consideration is respectfully requested.

REJECTIONS UNDER 35 USC §103

Claims 3, 7, 8, 13, 15, 19, 22, 24, 25 and 32-35 were rejected under 35 U.S.C. 103(a) as being unpatentable over Chiou et al. (U.S. Patent No. 6,700,093) in view of Neff et al. (USPS 2004/0045806) and Penfold et al. (U.S. Patent No. 4,031,424). The examiner holds that the differences between the subject matter sought to be patented and the prior art as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.

However, in order to establish a prima facie case of obviousness, the proposed modification of the cited references cannot render the prior art unsatisfactory for its intended purpose. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Applicant contends that modifying the cited references would render them unsuitable for use as intended and teaches away from the subject matter as a whole that is sought to be patented.

Applicant asserts that Penfold et al. cannot be modified without rendering it unsatisfactory for its intended purpose. Penfold et al. discloses a device for sputtering articles. In sputtering, atoms are driven off a target surface and arrive at a substrate with sufficient energy to displace impurities and absorb into the substrate lattice (column 1, line 66 through column 2, line 6). However, as stated in the specification in column 2, lines 42-48, pressure reduces the energy of the ions impacting on the target and severely dissipates the motions of the sputtered material in its migration to the substrate. Accordingly, Penfold et al. discloses a conventional vacuum chamber 10 having mounted therein an electrode type discharge device 12 (column 5, lines 27-30). The device is disclosed to operate at pressures around or less than 10^{-3} torr (column 2, lines 52-54). In one embodiment, illustrated in Figure 5, the device is used for wire cleaning. A wire cathode 314 is received within a cylindrical anode 316 and a plasma discharge is created therebetween (column 21, lines 25-26). The wire passes through flanges 314a, 314b and respective wire dies 320a, 320b (column 21, lines 38-39). Holes 321a-321b are incorporated into the flanges 314a, 314b to communicate the region within the cylinder to the interior of the vacuum chamber (column 21, lines 40-44).

In contrast, claim 24 recites a cleaning gas inlet to flow cleaning gas in said given direction. The inlet 52 directs a cleaning gas that moves with the wire and constitutes the gas forming a plasma. Reference page 5, lines 1-4 of the specification of the subject application. As stated on page 5, lines 9-10 of the subject application, the pressure of the cleaning gas is sufficient to cause the plasma to exit the far end of the chamber. Thus, while Penfold et al. teaches operation in a near vacuum, claim 24 recites a gas inlet that introduces positive pressure into the apparatus. To introduce pressure would take away from the ability of the device in Penfold et al. to effectively sputter material as stated above. Therefore, the device of Penfold et al. would be caused to operate in a manner unsatisfactory for its intended purpose. Accordingly, Penfold et al. discloses a process that teaches away from the limitations of the claimed subject matter.

Chiou et al. is directed to the destruction of compounds and in particular gaseous compounds like Perfluoro-compounds (PFCs) (column, 3, lines 16-19), whereas the claimed invention cleans material from the article traversing through a pathway. To perform its process, the specification of Chiou et al. discloses a dielectric barrier discharge apparatus having inner 2 and outer 8 cylindrical electrodes (column 3, lines 12-14). The discharging electrodes 2, 8 are stationary, i.e. fixed in position within the device, and distinct from the material being processed. Plasma is created between the two electrodes 2, 8 to enhance destruction of the gaseous substance (column 2, lines 4-6). In the claims of the subject application, the object being processed, namely the wire, is electrically engagable with the power source. Plasma is generated between the moving wire and a stationary electrode. A conductive contact tube is positively recited for this purpose to receive the moving wire and communicate electrical energy therethrough. No where in the specification does Chiou et al. disclose or elude to an electrode connection of this type or a processing of material in this manner.

Additionally, applicant asserts that a wire traveling along a given path in a given direction cannot be physically routed through the apparatus of Chiou et al. The circuitous route between concentric dielectric barriers 4, 6, while appropriately suited for gaseous material not having a definite shape, cannot receive a continuously extending section of wire for positively processing its surface. Even if one of skill in the art could physically route the wire in this manner, the complexity of operation would not suggest the desirability to do so. Furthermore, claim 24 describes a pathway surrounded by a dielectric barrier. The related pathway in Chiou et al., i.e. the region within the inner electrode 2, receives cooling fluid (column 3, lines 31-39), which is an essential process needed to carry away heat generated by the plasma discharged in the adjacent tubes. To modify the operation of the apparatus in Chiou et al to produce plasma in the manner stipulated by the subject claims would render it unusable for its intended purpose.

Furthermore, the examiner relies on the teachings of Neff et al. to disclose ultraviolet cleaning of strip materials. Neff et al. does not disclose features missing from the above mentioned references that would lead someone of skill in the art to arrive at the claim limitations of claim 24.

Inasmuch, applicant contends that a prima facie case of obviousness has been properly established. The pending claims are believed to distinguish over the prior art and allowance of the claims is respectfully requested.

REJECTIONS UNDER 35 USC §103

Claims 4-6, 10-12, 16-17 are also rejected under 35 U.S.C. 103(a) as being unpatentable over Chiou et al. in view of Neff et al. and Penfold et al. and further in view of (U.S. Patent 6,365,864) Stava.

Claims 4-6, 10-12, 16-17 all depend from independent claim 24. Given the arguments presented for allowing claim 24 and the dependent nature of these claims on claim 24, applicant submits that these claims also distinguish over the prior art. Allowance of the claims is hereby requested.

REJECTIONS UNDER 35 USC §103

Additionally, claims 2, 9, 14, 18, 20, 23, 36-38, 40-46 & 144 have been rejected by the examiner as being unpatentable over Chiou et al. in view of Neff et al. and Penfold et al. and further in view of (U.S. Patent 6,489,585) Nakamura et al.

With regard to claims 2, 9, 14, 18, 20, 23, 36-38, & 144 applicant notes that these claims depend from independent claim 24. Given the arguments presented for allowing claim 24 and the dependent nature of these claims on claim 24, applicant submits that these claims also distinguish over the prior art.

With regard to claim 40, this claim is rejected on similar prior art references, namely Chiou et al., Neff et al., and Penfold et al., as used in rejecting claim 24 and as discussed earlier. In the arguments presented above, arguments are presented that a prima facie case of obviousness has not been properly established. Similar claim elements discussed in the arguments presented earlier are recited in claim 40. For such reasons, applicant contends that a prima facie case of obviousness has not been properly established in rejecting claim 40 of the subject application.

Regarding claims 41-46, applicant notes that these claims depend from independent claim 40. Given the arguments presented for allowing claim 40 and the dependent nature of these claims on claim 40, applicant submits that these claims also distinguish over the prior art.

CONCLUSION

For the reasons detailed above, it is respectfully submitted all claims remaining in the application (Claims 2-38, 40-46 and 144) are now in condition for allowance.

Respectfully submitted,
HAHN LOESER & PARKS, LLP

/Timothy D. Smith/

Timothy D. Smith
Registration No. 50,880

TDS/pam
One GOJO Plaza
Suite 300
Akron, OH 44311-1076
(330) 864-5550

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